Sigma 1-7

Benchtop centrifuge

- **unrefrigerated**

www.sigma-zentrifugen.de


Serum
Serum

Powerhouse for a small volume of samples

Sigma is a leading international manufacturer of laboratory centrifuges for diverse sectors, including biotechnology, pharmaceutical, medical and environment analysis. Laboratories, institutions and companies everywhere in the world have been relying on premium Sigma quality – Made in Germany – for more than 40 years. The company stands for innovative products and development of durable, energy-efficient and especially user-friendly devices.

Small, quiet and powerful – those are the hallmarks of the Sigma 1-7. This new small centrifuge is excellently suited to the separation of blood or urine samples. The compact size makes it ideal for medical practices, veterinarians and small laboratories. It can also be put to good use for environmental analysis and in various educational institutions, such as schools or universities. The perfectly matched fixed-angle rotor of the Sigma 1-7 is well suited to the demands and requirements of small to medium volumes of samples. This laboratory centrifuge additionally features high RCF capability as well as sturdy, high-quality finishing.

Best in class

Powerful, low-vibration and quiet

The Sigma 1-7 small centrifuge can do more than similar devices in its class. It is the only one in its segment that supports up to ten programs. That allows routine operations to be stored and work processes to be optimised.

Another unique feature is the motorised lid lock for convenient, effortless closing. Automatic lid opening at the end of the run can also be configured if so desired. That makes it easy to see when the process is finished, even from a distance. In operation the Sigma 1-7 generates extremely low vibrations and is pleasantly quiet.

The Sigma 1-7 has an all-purpose fixed-angle rotor that can hold many different types of conventional blood tubes for in vitro diagnostics (IVD) as well as round-bottom tubes up to 15 ml. With a maximum RCF of 6,153 x g, separation times can be reduced dramatically – a crucial factor for time-critical applications such as emergency laboratories where fast diagnosis is vitally important for patients. The short acceleration and braking times of 13 and 11 seconds, respectively, make results available in next to no time.

The compact design, intuitive operation and high performance make it a popular tool in small and medium-size laboratories. High-quality finishing and sturdy components ensure safe work.

Sigma 1-7

- Small centrifuge for a small volume of samples
- Speed range up to 8,000 rpm
- Maximum capacity: 6 x 15 ml
- Maximum RCF: 6,153 x g
- Simple and convenient Spincontrol Basic controller
- Clearly organised display
- Compact, space-saving device
- Ten programs
- Low noise level
- Short acceleration and braking times
- Low temperature rise in continuous operation
- Motorised lid lock
- Automatic lid unlocking
- Zero-maintenance motor
- Two acceleration and braking curves
- Window in lid for external speed monitoring
- Produced in compliance with the latest national and international standards (e.g. EN 61010-2-020)

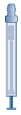
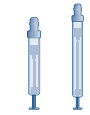
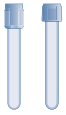
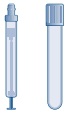
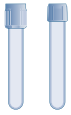

Barcode
8000 min-1
445/S
EXP.DATE 11/24

Universal fixed-angle rotor

Fixed-angle rotor 91429

Polypropylene fixed-angle rotor

- Max. capacity: 6 x 15 ml
- Max. speed: 8,000 rpm
- Max. RCF: 6,153 x g
- Angle: 38°

Blood and urine tubes										
Rated capacity (filling volume) [ml]	1.1 – 1.4	2.7 – 3.1	4.5 – 5	1.6 – 5.6	2.6 – 5.3	4 – 7	4 – 5.5	7,5 – 10	6 – 10	9 – 10
Diameter x length with lid [mm]	8 x 82	11 x 82	11 x 108	13 x 91 – 106	13 x 81 – 83	13 x 106 – 107	15 x 91	15 x 106 – 108	16 x 106 – 107	16 x 108
Tube material	PP	PP	PP	PP	PP, PET	PET	PP	PP, PET	PET	PP
Item no.	–	–	–	–	–	–	–	–	–	–

Adapter for fixed-angle rotor 91429 						
Bore diameter x length [mm]	17 x 65	17 x 85	17 x 65	17 x 85	17 x 65	17 x 85
Tubes per adapter / rotor	1 / 6	– / 6	1 / 6	– / 6	1 / 6	– / 6
Centrifuging radius [mm]	66	86	66	86	66	86
Item no.	13075	–	13075	–	13075	–

Tube							
Rated capacity (filling volume) [ml]	10	10	10	10	10	14	14
Diameter x length [mm]	16.1 x 81.1	16.1 x 81.1	16.1 x 81.1	16 x 100	16 x 100	17 x 100	17 x 100
Tube material	PF	PC	PPCO	Glass	Glass	PP	PS
Item no.	15000	15010	15039	15015	15024	15023	15020

Adapter for fixed-angle rotor 91429 		
Bore diameter x length [mm]	17 x 65	17 x 85
Tubes per adapter / rotor	1 / 6	– / 6
Centrifuging radius [mm]	66	86
Item no.	13075	–

Material properties

Guideline for optimal tube selection

Due to the many factors that influence material properties, this overview is only intended as a general recommendation. There is no guarantee of the stated properties. Users should therefore carefully test materials for suitability under specific application conditions. Tubes should be discarded as soon as they show any sign of material fatigue.

	Polycarbonate (PC)	Polyvinyl fluoride (PF)	Polystyrene (PS)	Polyethylene (PE)	Polypropylene (PP)
Autoclave resistant	Yes	Yes	No	No	Yes
Elasticity	Not elastic	Not elastic	Not elastic	Good	Not elastic
Transparency	Transparent	Translucent	Transparent	Translucent	Translucent
Recommended temperature range [°C]					
Embrittlement temperature [°C]	≤ -20	≤ -20	≤ -10	≤ -20	≤ -20
Max. working temperature [°C]	≥ +125	≥ +125	≥ +80	≥ +90	≥ +125
Microwave resistant	Moderate	Yes	No	Limited	Moderate
Chemical resistance					
Weak acids	Yes	Yes	Yes	Yes	Yes
Strong acids	No	Yes	Limited	Yes	Yes
Alcohols and alkalis	No	Yes	Yes	Yes	Yes
Salts	Limited	Yes	Limited	Yes	Yes
Note:	Frequent autoclaving leads to loss of strength	Tubes should be completely filled and closed for use at maximum RCF			

	PP copolymer (PPCO)	Glass	High-speed glass (HS glass)	Stainless steel
Autoclave resistant	Yes	Yes	Yes	Yes
Elasticity	Moderate	Not elastic	Not elastic	Not elastic
Transparency	Translucent	Transparent	Transparent	Opaque
Recommended temperature range [°C]				
Embrittlement temperature [°C]	≤ -20	≤ -20	≤ -20	≤ -20
Max. working temperature [°C]	≥ +125	≥ +200	≥ +200	≥ +200
Microwave resistant	Moderate	Yes	Yes	No
Chemical resistance				
Weak acids	Yes	Yes	Yes	Limited
Strong acids	Yes	Yes	Yes	Limited
Alcohols and alkalis	Yes	Yes	Yes	Yes
Salts	Yes	Yes	Yes	Limited
Note:		Max. RCF for all glass tubes approx. 4,000 x g	High-speed glass for maximum RCF of 13,100 x g	

Spincontrol Basic

Advanced control, intuitive operation

Spincontrol Basic is a programmable and user-friendly control unit with a clearly organised and intuitive user interface that simplifies everyday tasks in the lab. Operating parameters are entered using centrally arranged arrow buttons, and parameter settings can be changed during operation. A convenient feature is the user-configurable automatic lid opening at the end of the run.

Spincontrol Basic can hold up to ten programs – a unique feature in its class. These user-modifiable programs can store standard routines for retrieval at any time. That makes the control unit ideal for institutions where tubes with different operating parameters must be centrifuged. Quick access to stored programs facilitates enhanced process reliability and quality of analytical results.

Two pairs of acceleration and braking curves help to optimise separation processes. Short or pulsed runs are also possible by pressing and holding the Start/Stop button.

Display	LCD
Speed/RCF display	+
Timer (s; h:min)	10 – 99:59
Short run, Continuous run	+ , +
Time increment [s]	1
Speed increment [rpm]	100
RCF increment [x g]	10
Programs	10
Acceleration curves	2 (fast, soft)
Braking curves	2 (fast, soft)
Automatic lid opening at end of run, switchable	+ , +
Microprocessor control	+

Premium quality

Made in Germany

The Sigma 1-7 centrifuge meets the highest technical requirements and laboratory standards. Developed and produced at our facility in Osterode, Germany, it is a high-performance, durable and energy-efficient quality product and conforms to the latest safety, emissions and environmental standards. Sigma guarantees the availability of spare parts and wearing parts for at least 10 years. Furthermore, you benefit from our extensive services portfolio, including commissioning, maintenance, device calibration and more.
Our qualified service technicians are ready to provide professional maintenance and repair as well as loaner devices if necessary.
All support services are designed to ensure reliability and optimise system availability.

Sigma Service
For maintenance and repairs please contact our Service department at www.sigma-zentrifugen.de/en/service

	Sigma 1-7
Max. capacity [ml]	
fixed-angle rotor	6 x 15
Max. RCF	6,153
Maximum speed [rpm]	8,000
Minimum speed [rpm]	200
Noise level at maximum speed (approximate) [dB(A)]	
Fixed-angle rotor 91429	58
Max. acceleration time [s]	
Fixed-angle rotor 91429	13
Max. braking time [s]	
Fixed-angle rotor 91429	11
Power consumption [W]	55
Height x width x depth [mm]	271 x 310 x 418
Height with open lid [mm]	527
Weight without rotor [kg]	13

Calibration

Documented proof of compliance with essential technical parameters.

Speed or run time	(item no. 17713)
Speed and run time	(item no. 17714)
Speed, run time, temperature	(item no. 17715)

Device qualification (IQOQ)

This comprehensive device qualification includes installation qualification and metrological checking of all functional parameters with a rotor.

IQOQ package for:

Unrefrigerated centrifuges	(item no. 17710)
Refrigerated centrifuges	(item no. 17711)
An additional rotor	(item no. 17712)

Sigma 1-7 centrifuge
220–240 V, 50/60 Hz (item no. 10022)

CE WEEE-Reg.-Nr. DE 76714077 RoHS conform

Product portfolio

Sigma offers a broad product portfolio with more than 25 laboratory centrifuges. They can be combined with an extensive range of fixed-angle and swing-out rotors and a large range of accessories to obtain the right device configuration for every application.

Microcentrifuge
Sigma 1-16

36 x 2 ml
15,000 rpm
20,627 x g

Floorstanding centrifuge
Sigma 8KS

12 x 1,000 ml
5,100 rpm
8,578 x g

6 x 1,000 ml
10,500 rpm
20,461 x g

Benchtop centrifuge
Sigma 2-7

4 x 100 ml
4,000 rpm
2,540 x g

30 x 15 ml
4,000 rpm
2,486 x g

Benchtop centrifuge
Sigma 3-30KS

4 x 100 ml
5,000 rpm
3,969 x g

6 x 94 ml
30,000 rpm
70,121 x g

Robot centrifuge
Sigma 4-5KRL

100 x 15 ml
4,700 rpm
4,470 x g

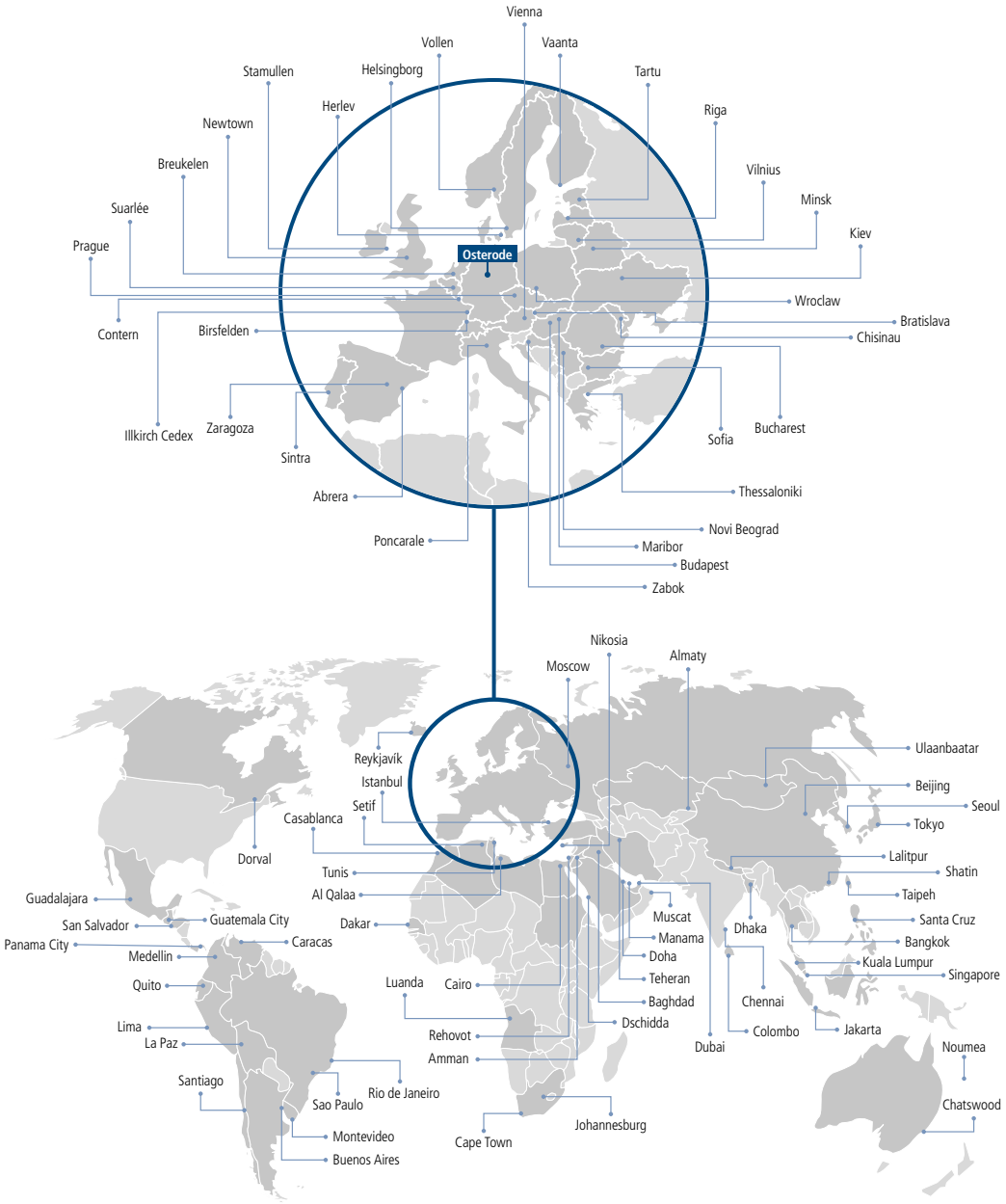
Legend

- Max. capacity
- Max. speed
- Max. RCF
- Swing-out rotor
- Fixed-angle rotor

Global service

For local product security

Our trained service partners in over 100 countries ensure consistently high quality in accordance with national regulations. Our specialists can also be engaged quickly around the world, either remotely or on site in person.



Selected locations of our representatives.

An overview of all representatives with detailed contact information can be found at www.sigma-zentrifugen.de

Sigma Laborzentrifugen GmbH
An der Unteren Söse 50
37520 Osterode am Harz
Tel. +49 (0) 55 22 / 50 07-0
Fax +49 (0) 55 22 / 50 07-12
info@sigma-zentrifugen.de
www.sigma-zentrifugen.de

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